

Aspekt™

Nexus™
Phantom
Battery
Package

OWNER'S MANUAL

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IMPORTANT
READ AND UNDERSTAND THIS MANUAL
BEFORE OPERATION

The Nexus phantom battery utilizing nickel cadmium battery chemistry delivers an uninterruptible power solution when used with the NEXUS series of batteries.

The Nexus series of batteries will ONLY charge on one of the following chargers:

- The NEXUS 2 All Chem Charger.
- The NEXUS 4 All Chem Charger.

THE NEXUS BATTERY CANNOT BE CHARGED ON any other Battery Charger.

DO NOT attempt to charge on any charger that is not listed above.

This NEXUS phantom battery is unlike other video batteries you may have used. Special precautions and handling instructions are contained in this manual and should be strictly adhered to for safe and reliable operation. **Contact Anton/Bauer® Customer Support at (203) 929-1100 with any questions regarding this product.**

INTRODUCTION

The Aspekt NEXUS phantom battery system from Anton/Bauer is a component in the next generation of the popular NP battery systems. The NEXUS battery, NEXUS Phantom battery, NEXUS mounting system, and NEXUS charging systems have been designed to upgrade the NP battery format into a battery format that is electrically and mechanically superior and in step with the advancements made to professional video cameras. The NEXUS phantom battery system will automatically identify itself to any NEXUS primary battery that the phantom battery is supporting. This identification will activate specialized charge routines and monitoring necessary to effectively utilize this new technology.

FEATURES

1. **Phantom mount Status Indicator** – The Phantom mount communicates with the attached NEXUS battery. The LED indicates the status of the Phantom battery.
2. **Intelligent Un-interruptible Communication**- The NEXUS Phantom Power system will provide seamless transitions from main power to back-up power.
3. **Over-Current Surge protection**- The NEXUS Phantom battery will assist in meeting power demands if a surge current is detected. The surge current can be detected from a high surge from the camera or high surge from the external power-tap.
4. **NEXUS Phantom battery charging**- The NEXUS Phantom battery will be recharged to full capacity when a NEXUS series battery is replaced. The NEXUS Phantom battery can also be charged on NEXUS-2 or NEXUS-4 chargers.

Installation of NEXUS Phantom housing

The installation of te NEXUS Phantom housing will vary dependent upon the type of NEXUS mount used. Identify if you are using NEXUS NP or NEXUS V model.

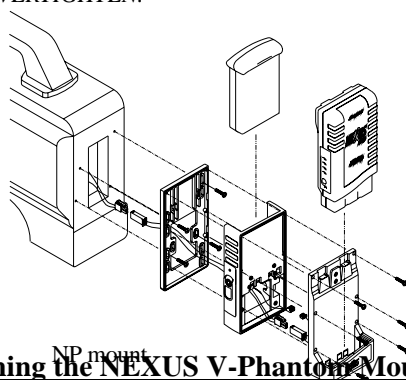
IDENTIFY THE SCREWS FOR YOUR MODEL.
ONLY USE THE SUPPLIED SCREWS.

***TIGHTEN SCREWS UNTIL YOU FEEL
RESISTANCE - DO NOT OVERTIGHTEN***

Attaching the NEXUS NP Phantom mount

The Phantom mount is attached between the camera and the NEXUS mount. Two separate types of screws are required for the NP mount. These are provided with the NEXUS battery package.

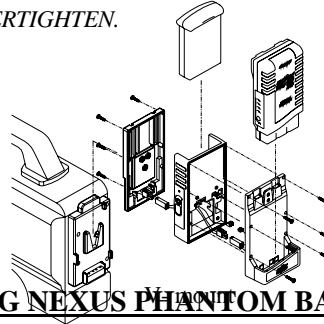
- 1) Attach the 2 pin wire connector from the phantom mount to the camera.
- 2) Attach NEXUS base mount to camera with 4 screws (NP mount only).
- 3) Attach the 2 pin wire connector and the 1 wire communication connector from the NEXUS battery side of the mount to the corresponding connectors on the Phantom mount.
- 4) Fasten the 6 screws (provided with the Phantom) of the NEXUS mount to the phantom mount as identified below.
 - (4) 1-3/4" screws at bottom four positions
 - (2) 1-1/2" screws at top positions.
- 5) ***TIGHTEN SCREWS UNTIL YOU FEEL RESISTANCE- DO NOT OVERTIGHTEN.***



Attaching the NEXUS V-Phantom Mount

The Phantom mount is attached between the NEXUS V-mount. The NEXUS V-mount is provided assembled from the factory. You must remove the screws in the NEXUS V-mount and re-assemble using the screws marked "V-mount version". These are provided with the NEXUS Phantom battery package.

- 1) Remove the 6 screws in the NEXUS V-mount.
- 2) Separate the two portions of the V-mount.
- 3) Attach the 2 pin wire connector from the NEXUS V-mount to the 2 pin wire connector of the NEXUS Phantom Package (this is the side that is attached to the camera).
- 4) Attach the 2 pin wire connector and the 1 wire communication connector from the NEXUS battery side of the mount to the corresponding connectors on the Phantom mount (this is the side the battery mounts to).
- 5) Fasten the 6 screws identified for the V-mount as indicated below.
 - (2) 1-1/2" Screws at top of NEXUS V-mount
 - (2) 1-3/4" Screws at middle of NEXUS V-mount
 - (2) 1-5/8" Screws at bottom of NEXUS V-mount
- 6) *TIGHTEN SCREWS UNTIL YOU FEEL RESISTANCE- DO NOT OVERTIGHTEN.*



CHARGING NEXUS PHANTOM BATTERIES

- DO NOT ATTEMPT TO CHARGE THIS BATTERY WITH ANY CHARGER OTHER THAN THE NEXUS ALL CHEM CHARGERS SPECIFIED IN THIS MANUAL.
- **Allow the battery to reach a steady green mode before using for the first time. Please read the individual charger Owner's Manual to become acquainted with the many unique operating features of the NEXUS All Chem Chargers.**
- The NEXUS Phantom battery will have reached full charge when the LED's on the charger indicate STEADY GREEN.
- **The NEXUS phantom battery can remain on the charger until just prior to being used.** The steady green charger LED indication signifies a maintenance routine that keeps the battery charged and ready for use.

For best results this battery should be used or returned to the NEXUS All Chem charger within 48 hours of being removed from the charger.

Phantom Charging

- The Phantom battery will be charged by the attached NEXUS battery
- The NEXUS battery will only charge the Phantom battery if the attached NEXUS battery is above 12.0VDC.
- If the Phantom battery is below 12.0VDC, the empty battery indication may be displayed for over 30 minutes while an attached battery charges the Phantom battery.

Charging Phantom Battery

- It is recommended that Phantom battery be removed from the Phantom mount and charged on an NEXUS 2 or NEXUS 4 charger at least once per month.

NOMINAL CHARGE TIMES FOR NEXUS 50

Charge Level LED Indicators	100% Steady Green
NEXUS 2, NEXUS 4 All Chem Chargers	25 minutes

Charge time can vary depending on age, condition and remaining capacity of each battery at the time it is placed on the charger.

Phantom Battery Status Indications

- When the NEXUS phantom battery is being used, the LED indicators will display status as listed below.

LEDS	STATUS
GREEN	Above 15.6 VDC
ORANGE	Above 12.6 VDC
FLASHING RED	Below 12.6 VDC
FLASHING RED	Less than 30 minutes of charge applied

- **The Phantom battery will not be operational in the FLASHING OR STEADY RED mode.**

OVERCURRENT INDICATION

- If the NEXUS battery is subjected to a load that exceeds specifications, the protection electronics will operate to protect the lithium ion cells. The Phantom battery UPS system will work in conjunction with the NEXUS Battery to sense the overcurrent condition and automatically boost the battery voltage with the backup battery before the safety circuits open within the NEXUS battery.
- The Phantom LED will flash between Red and Orange until the overcurrent condition is resolved.
- The Phantom system will assume that any battery that does not establish communication is either a NiCd or NiMH battery. Any battery other than the NEXUS Series will disable this system.

STANDARD OPERATION

- The Phantom mount communicates Reserve battery backup status to the attached NEXUS Battery. If the Phantom is utilizing the Reserve battery to power the camera and light, it will instruct the attached NEXUS battery to flash it's number one ORANGE LED continuously. This gives the end user positive indication that the attached NEXUS battery can be replaced without camera or light output interruption.
- Holding the attached NEXUS display button for 3 seconds commands the Phantom to enable reserve mode. Reserve mode transfers current pull to the Phantom battery and away from the attached NEXUS battery.
- If the NEXUS display button has not been pressed the Phantom battery will automatically enable into reserve mode if the attached NEXUS battery voltage drops below 12.0VDC.
- If the voltage on the attached NEXUS battery is above 12.0VDC and the display button on the attached NEXUS battery has not been pressed, the reserve mode will not be enabled if the attached battery is removed. The camera and lights will shut off in this scenario.
- If a Phantom battery is installed before the NEXUS battery is attached, the Phantom battery will enable reserve mode.

**PHANTOM BATTERY OVERSURGE
PROTECTION GUIDELINES**

- If a NEXUS battery is attached without first installing a Phantom battery, camera power will be supplied by the attached NEXUS battery. **NOTE-Attaching a NEXUS Battery without a Phantom battery will disable the light output. This will prevent power surge from the light output which would trigger the NEXUS protection circuit.**
- If the NEXUS protection circuit is triggered by a power surge, the NEXUS battery will need to be removed from the Phantom battery holder to reset the protection circuit.
- The Phantom battery will absorb a power surge from the camera or light output. If a light above 50 watts is connected to the light output, the Phantom status LED will flash RED and ORANGE 30 seconds. The light output (power tap) will also be shut off. This action will continue until the light over load is removed from the Phantom.
- The system will assume that any battery that does not communicate with the Phantom mount is either NiCd or NiMh battery chemistry. Any battery other than the NEXUS Series will disable this system.

OPERATING GUIDELINES

1. **Keep batteries cool or at room temperatures whenever possible.** Sustained elevated temperatures contribute to the premature failure of batteries:
 - a. Charging - Charge batteries at room temperature. In warm climates keep chargers in air conditioned rooms for best performance.
 - b. On assignment - Do not leave batteries in a hot vehicle trunk or out in direct sunlight.
2. **Do not over-discharge batteries** - It is quite proper to discharge a battery until a low voltage warning in the camera or VTR is observed. However, a switch to a fresh battery should occur as soon as possible following such indication. Never leave a battery operated device unattended while it is running.
3. **DO NOT LEAVE A BATTERY ATTACHED TO A CAMERA/CAMCORDER during transit or storage.** "Keep warm" circuitry in the camera can drain the battery. The NEXUS battery has specialized circuits which will not allow a battery to over discharge, the battery will protect itself and shut down.

SERVICE

In the event a NEXUS Phantom battery fails to deliver acceptable performance, it must be returned to the Anton/Bauer. No other facility is qualified and equipped to service the NEXUS batteries and calibrate the electronic components and sensors. Any attempt by the user or any other unauthorized persons to service this battery will surely result in improper calibration of the electronic components **resulting in severe battery damage and/or safety hazards**, including potential personal injury and/or damage to property. Any such attempt will void any/all unconditional warranties.

Therefore:

1. **NEVER** attempt to service this battery. If there is a problem, send this battery only to Anton/Bauer for evaluation.
2. **NEVER ATTEMPT TO OPEN THIS BATTERY.** The electronic circuits inside the battery can be damaged causing malfunction and/or potential hazard to person and property.
3. **NEVER** attempt to replace the cells in this battery – it cannot be rebuilt. At the end of its useful life contact the Anton/Bauer Customer Support Group.

PRECAUTIONS

- 1. Do not expose this battery to high temperatures (above 50°C/120°F). This includes storage in direct sunlight, in cars in hot weather, or in close proximity to heating devices. This may cause electrolyte leakage, impaired performance and shortening of battery service life.**
- 2. Redundant protection devices are designed to operate if the battery voltage is abnormally high or low and if the temperature of the battery exceeds operating specifications. These electronic devices can be damaged if the battery is subject to abuse or damage. Do not use a battery that has been subjected to excessive mechanical shock or water damage.**
- 3. Do not drop, puncture or crush this battery. Do not use the battery if the case is damaged or broken.**

NEXUS PHANTOM BATTERY SPECIFICATIONS

OUTPUT VOLTAGE	13.2 V Nominal 12.0 ~ 16.5v Operating
CAPACITY (CELL CAPACITY)	8 WH Nominal (600 mAH Rated)
RECOMMENDED OPERATION (MAXIMUM DISCHARGE RATE)	15 - 40 watts ¹ (54 watts) ²
WEIGHT	.55lb .25kg
SIZE	1.25" x 3.0" x 4.5" 3.175cm x 7.62cm x 11.43cm
CHARGE TEMPERATURE	0 – 40°C
DISCHARGE TEMPERATURE	-20 – 60°C
STORAGE TEMPERATURE	-20 – 50°C

¹ NEXUS Battery may be used to power both camera and on camera light however its maximum cold halogen lighting load is restricted to 25 watts.

² Routine use of a battery at discharge rates greater than the battery rating (e.g. >40w for NEXUS Battery) can reduce overall service life. Always select the proper size battery for your application.

LIMITED WARRANTY

This one (1) year limited warranty for the product specified in this document is given by Anton/Bauer, Inc. ("Anton/Bauer"), 14 Progress Drive, Shelton, Connecticut 06484. If you have any questions regarding product applications, product specification, or to obtain warranty service on this or any Anton/Bauer product, contact the Anton/Bauer Customer Support Group or the company at the address above.

IMPORTANT: WARRANTY REGISTRATION CARD MUST BE MAILED WITHIN 30 DAYS OF PURCHASE TO QUALIFY FOR THIS WARRANTY. Warranty registration, including the serial numbers of Anton/Bauer chargers used with this Product, must be supplied to Anton/Bauer. Anton/Bauer will warranty the Product only against defects in material and workmanship for a period of one (1) year from the date of purchase, in accordance with the terms set forth below, and then, only if the Product is used only in conjunction with compatible Anton/Bauer chargers. If this battery is returned to Anton/Bauer for warranty service it will be required that the user provide model names and serial numbers of compatible Anton/Bauer chargers with which this product was used.

THIS PRODUCT MAY ALSO BE REGISTERED ON LINE AT www.antonbauer.com.

This warranty shall be effective only if Anton/Bauer receives notice of such defects in materials or workmanship during the period of the warranty. Minimum battery capacity is defined, under this warranty, as 60% of nominal specified capacity for this product at time of purchase. The liability of Anton/Bauer hereunder is expressly limited to a claim for repair or replacement of the Product or as otherwise stated herein at Anton/Bauer's sole discretion. Notice of any claim under this warranty shall be delivered to Anton/Bauer during the period of the warranty and the Product should be returned with its packaging promptly, at purchaser's expense, to an Anton/Bauer Customer Support Center or to the address above. Upon receipt of the Product and a record of your compliance with the conditions of this warranty, Anton/Bauer will repair or replace the Product and return it to you, or issue a credit, as applicable.

THIS WARRANTY DOES NOT APPLY TO AND IS VOID IN THE CASE OF DEFECTS OR DAMAGE RESULTING FROM ACCIDENTS, DISASTER, NEGLIGENCE, MISUSE, IMPROPER INSTALLATION, IMPROPER OR UNAUTHORIZED SERVICE OR MAINTENANCE, UNAUTHORIZED REPLACEMENT PARTS OR ATTACHMENTS; OR DYSFUNCTION OR MALFUNCTION OF, OR CAUSED BY,

ANY OTHER PRODUCT OR DEVICE. Misuse includes any use of the Product in other than its intended application, including the use of this Product with any charging device or accessory not manufactured by and/or specified by Anton/Bauer. This warranty does not cover, and Anton/Bauer assumes no responsibility for, any equipment or devices used in conjunction with the Product.

ANTON/BAUER DISCLAIMS ANY LIABILITY FOR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY WRITTEN OR IMPLIED WARRANTY OF THE PRODUCT. UNDER NO CIRCUMSTANCES WILL ANTON/BAUER BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

This Warranty is to be construed and enforced in accordance with the law of the State of Connecticut, including the provisions of the Uniform Commercial Code as adopted and from time to time amended in the State of Connecticut, and not the Convention for the International Sale of Goods. This choice of Connecticut law is exclusive of any Connecticut law that would require reliance on any law foreign to Connecticut. Should any action of law or in equity be brought by any person under this Warranty, such action shall be brought only in the United States District Court for the District of Connecticut, or in any Superior Court in Fairfield County, Connecticut, U.S.A. Some states do not allow limitations on how long a warranty lasts, so the time period limitation herein may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may have other legal rights which vary from state to state.

The use of the combination of elements of the Nexus system – Nexus 50 battery, Phantom battery, Nexus Mount and circuitry components – are protected under US Patent number 6,605,923. Any license inferred under this patent is restricted to mating components manufactured and sold by Anton/Bauer only. The manufacture, sale or use of any other components (batteries or mounting devices) may be contrary to the patent laws of the United States and an infringement of this patent. Only batteries and/or mounts manufactured and sold by Anton/Bauer may be used in conjunction with the Nexus Phantom accessory. Other US and international patents may apply.

The following are trademarks of Anton/Bauer, Inc.:

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